

ABSTRACT

Modulation control circuitry modulates the equivalent output resistance of a power converter, for example a Sine Amplitude Converter, by varying the ON resistance of the primary switches in the converter. The modulation control circuitry may be used to “soft-start” the converter, perform output current limiting, and to improve current sharing between converters in a power sharing array. Soft-start may be achieved by controlling the rate of rise of the peak voltage applied to the gate control inputs of the primary switches. As the gate voltage passes through a range near the threshold voltage of the primary switches, the ON resistance of the switches, and the equivalent output resistance of the converter, will vary smoothly from a relatively high value to a relatively low value. Current limiting may be accomplished by measuring the output current of the converter and controlling the gate voltages of the main switches in order to keep the current at or below a predetermined level.

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